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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,771	03/05/2001	Stephen Alan Jobling	1770	5045

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EXAMINER

LEWIS, PATRICK T

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 02/25/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/719,771	<b>Applicant(s)</b> JOBILING ET AL.	
	<b>Examiner</b> Patrick T. Lewis	<b>Art Unit</b> 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 December 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40 and 41 is/are allowed.
- 6) ☒ Claim(s) 30-32, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 33-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group III drawn to claims 11-24 in Paper No. 8 dated May 23, 2002 is acknowledged.
2. Claim 1-10 and 25-29 were withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8 dated May 23, 2002. The restriction requirement was made final in Paper No. 9, dated August 13, 2002.

### ***Objections/Rejections Set For the in Office Action dated August 13, 2002***

3. The title of the invention was objected to as not descriptive.  
The following title was suggested: Starch obtainable from modified plants.
4. Claims 11-18 and 23-24 were objected to because of the following informalities:  
Claims depend from a non-elected claim.
5. Claims 11-18 and 23-24 were objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.
6. Claim 21 was objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

7. Claim 19 was rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. EP 0779363 A2 (Smith).

8. Claims 19-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Haynes et al. US 6,013,299 (Haynes).

***Applicant's Response dated December 13, 2002***

9. In the Response filed December 13, 2002, the title was amended, claims 1-29 were canceled, and claims 30-41 were added. Claims 30-41 are pending. An action on the merits of claims 30-41 is contained herein below.

10. In the Response filed December 13, 2002, applicant presented arguments directed to the rejection of claim 19 under 35 U.S.C. 102(b) and the rejection of claims 19-22 under 35 U.S.C. 103(a). Applicant also presented remarks drawn to the examiner's withdrawal of claims 1-10 and 25-29 from further consideration and to the objections of claims 11-18, 21, and 23-24.

11. Applicant's cancellation of claims 11-18, 21, and 23-24 has rendered to objections set forth in the Office Action dated August 13, 2002 moot.

12. Applicant's cancellation of claim 19 has rendered to rejection under 35 U.S.C. 102(b) as set forth in the Office Action dated August 13, 2002 moot; however, the Smith et al. reference is deemed to read upon the instantly claimed invention as set forth in newly added claims 30-32 and 39 and will be addressed herein below.

13. Applicant's cancellation of claims 19-22 has rendered the rejection under 35 U.S.C. 103(a) as set forth in the Office Action dated August 13, 2002 moot.

***Response to Arguments***

14. In regards to the Smith et al. reference, applicant's arguments filed December 13, 2002 have been fully considered but they are not persuasive.

Applicant argues: 1) Smith provides no teaching regarding plants stably transformed with at least two genes encoding starch synthase enzymes or the starch produced by these plants; and 2) Smith does not provide motivation to accomplish the invention as claimed.

In response to applicant's assertion that Smith provides no teaching regarding plants stably transformed with at least two genes encoding starch synthase enzymes or the starch produced by these plants, the examiner agrees; however, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In the instant case, claims 30-31 place no limitations on the starch (beyond the process in which it is made); claim 32 limits the starch to those wherein the viscosity onset temperature is reduced by at least about 10 °C compared to starch obtained from unmodified plants; and claim 39 limits the starch to those wherein the viscosity onset temperature is less than about 55 °C. Said claims are deemed unpatentable over Smith as Smith teaches starch extracted from a transformed

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potato plant or the progeny thereof, wherein the viscosity onset temperature is reduced by at least 7 °C as determined by differential scanning calorimetry (page 4, lines 45-55). The manners in which the viscosity onset temperatures are measured are deemed to be equivalent. Smith further teaches starch extracted from a transformed potato plant as having a viscosity onset temperature of less than about 55 °C.

Regarding the lack of motivation, the examiner notes that obviousness may be based on the motivation to combine prior art references where the motivation to combine is either a teaching or suggestion in an individual reference of the proposed combination or in the prior art references as a whole, or in the knowledge generally available to those skilled in the art. In the instant case, the Smith et al. reference teaches the limitations of the starch as claimed by applicant. Indeed the art itself provides sufficient incentive to practice the instantly claimed invention.

### ***Claim Objections***

15. Claims 33-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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17. Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims must, under modern claim practice, stand alone to define invention, and incorporation into claims by express reference to specification and/or drawings is not permitted except in very limited circumstances; thus, claims in utility applications that define invention entirely by reference to specification and/or drawings, known as "omnibus" or "formal" claims, are properly rejected under 35 U.S.C. 112, second paragraph, as failing to particularly point out and distinctly claim invention. *Ex parte Fressola* 27 USPQ2d 1608.

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. Claims 30-32 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. EP 0779363 A2 (Smith).

Claims 30-32 are drawn to a starch extracted from a plant that has been stably transformed with at least two heterologous nucleic acid sequences, wherein each nucleic acid sequence encodes a different starch synthase enzyme. Claims 31 and 32 depend from claim 30. Claim 31 limits the nucleic acid sequences a sequence encoding potato starch synthase II (SSII) enzyme and a nucleic acid sequence encoding potato starch synthase III (SSIII) enzyme. Claim 32 limits the starches to those having a viscosity onset temperature reduced by at least about 10 °C compared to starch extracted from equivalent, unmodified plants. Claim 39 is drawn a starch extracted from a plant that has been stably transformed with at least two heterologous nucleic acid sequences, wherein each nucleic acid sequence encodes a different starch synthase enzyme, and wherein the starch has a viscosity onset temperature of less than about 55 °C.



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Smith teaches starch extracted from a transformed potato plant or the progeny thereof, wherein the viscosity onset temperature is reduced by at least 7 °C [about 10 °C] as determined by differential scanning calorimetry (page 4, lines 45-55). The manners in which the viscosity onset temperatures are measured are deemed to be equivalent. Smith further teaches starch extracted from a transformed potato plant as having a viscosity onset temperature of less than about 55 °C.

Smith differs from the instantly claimed invention in that Smith does not teach the process for preparing the starch as instantly claimed; however, although product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Thus, the instantly claimed invention is *prima facie* obvious.

### **Conclusion**

22. Claims 30-41 are pending. Claims 30-32 and 38-39 are rejected. Claims 33-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 40-41 appear to be free of the prior art.

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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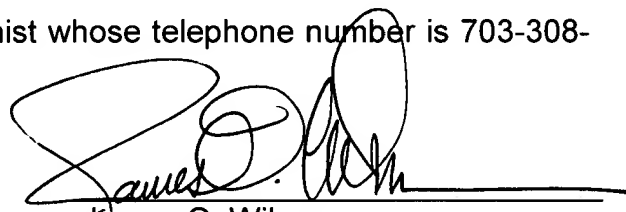
**Contacts**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick T. Lewis whose telephone number is 703-305-4043. The examiner can normally be reached on M-F 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Patrick T. Lewis, PhD  
Examiner  
Art Unit 1623



James O. Wilson  
Supervisory Patent Examiner  
Technology Center 1600

ptl  
February 23, 2003